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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,004	02/08/2002	Woo Young So	1514.1010	6442

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EXAMINER	
SEFER, AHMED N	
ART UNIT	**PAPER NUMBER**
2826	

DATE MAILED: 02/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/068,004	SO ET AL.	
	Examiner	Art Unit	
	A. Sefer	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-16 and 22-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-16 and 22-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on November 3, 2003 have been fully considered but they are not persuasive.

2. Applicants argue that the art rejection of independent claims 12 and 22 does not teach or suggest all the elements either explicitly or inherently. Specifically, Applicants claim that Yoneda et al., USPN 5,837,568 does not disclose source and drain electrodes which directly contact, respectively, the high density source and rain regions of the TFT.

3. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., source and drain electrodes not connected to the high density source and rain regions through via holes formed in other layers of the TFT) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoneda et al. USPN 5,837,568

Yoneda et al disclose in figs. 12 and 13 a in thin film transistor (TFT), comprising: a substrate 10; a semiconductor layer formed over said substrate having end portions; a first insulating layer 12 disposed on said semiconductor layer so as to expose ones of the end portions of said semiconductor layer; a gate electrode 13 formed over said first insulating layer; a capping layer 14 formed over said gate electrode; spacers 15 formed over said first insulating layer and on both sidewall portions of said gate electrode and said capping layer; high-density source and drain regions 11 formed at the ones of the end portions of said semiconductor layer exposed beyond said spacers; source and drain electrodes 17/18 which directly contact, respectively, said high density source and drain regions.

Regarding claim 13, Yoneda et al disclose low-density source and drain regions 11L having a same conductivity as high-density source and drain regions formed at regions of said semiconductor layer under spacers between the gate electrode and the high density source and drain regions, wherein said semiconductor layer has lightly doped drain (LDD) regions under said spacers.

Regarding claim 14, Yoneda et al disclose said first insulating layer, said capping layer and said spacer are of an oxide.

6. Claims 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoneda et al. USPN 5,837,568

Yoneda et al disclose in figs. 12 and 13 an active matrix display device, comprising: a substrate 10; a semiconductor layer having end portions formed over said substrate; a first insulating layer 12 formed over said semiconductor layer so as to expose one of the end portions of said semiconductor layer; a gate electrode 13 formed over said first insulating layer; a capping

layer 14 formed over said gate electrode; spacers 15 formed over said first insulating layer and on side wall portions of said gate electrode and said capping layer; high-density source and drain regions 11formed at the ones of the end portions of said semiconductor layer exposed beyond said spacers; source and drain electrodes 17/18 which directly contact, respectively, said high density source and drain regions; a planarization layer 19 having an opening portion CT3 which exposes a portion of one of said source and drain electrodes; and a pixel electrode 20 formed on the planarization layer, the pixel electrode contacting one of the second source and drain electrodes through the opening portion.

Regarding claim 23, Yoneda et al disclose low-density source and drain regions having a same conductivity as said high-density source and drain regions formed at off-set regions of said semiconductor layer under said spacers so as to have said semiconductor layer with lightly doped drain (LDD) regions under said spacers.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 15, 16 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda et al. in view of Yamazaki et al. (JP 11-261076)

Yoneda et al disclose the device structure as recited in the claim, but do not disclose a silicide layer.

Yamazaki et al disclose in fig. 1 a silicide layer 105a or a refractory metal (as in claim 16) formed between said source electrode and said high-density source region and between said drain electrode and said high-density drain region.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Yamazaki et al with the device of Yoneda et al, since that would lessen the source/drain regions in sheet resistance as taught by Yamazaki et al.

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoneda et al. in view of Yamazaki et al as applied to claim 22 above, and further in view of Tang et al. USPN 5,550,066.

The combined references fail to disclose an organic electro-luminescence (EL) layer and a cathode electrode.

Tang et al disclose an organic electro-luminescence (EL) layer 82 and a cathode electrode 84 sequentially formed on a first predetermined area of said pixel electrode and on a second predetermined area of a planarization layer 74.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the teachings of Tang et al with the device of Yoneda et al and Yamazaki et al, since that would provide a high efficiency.

Conclusion

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (703) 605-1227.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601.

ANS
January 20, 2004